Guardaseal
Belt Support System



Installation Operations Manual

Revision	Description of Change	Changed By	Date
A	Added Final Checklist	AS	28/5/07
B	Updated Melbourne Address & Removed SA Address	SH	3/08/09
C	Final Checklist Updated Items 4 & 5 Reversed	SH	15/04/10
D	Removed Mt isa contact details	KO	21/6/12
E	Updated format of manual	KO	11/9/12
F	Updated drawing F0251	KO	5/1/13
G	Inserted updated drawing F0251	KO	11/2/14
H	Updated office details	KO	11/3/14

ENGINEERING SERVICES and SUPPLIES

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TOLL FREE 1800 074 446 FROM ANYWHERE IN AUSTRALIA **VSS TOLL FREE 1800 300 877**		

WARRANTY NOTE

ESS **WARRANTS** the **Guardaseal Belt Support System** to be free of defects both in materials and workmanship for a period of 12 months from the date of despatch of the product from the ***ESS*** factory. The warranty given by ***ESS*** in this regard will extend only to replacing or repairing product shown to be defective.

The warranty also is subject to the following restrictions:

(a) Installation of the product contrary to the instructions contained in the supplied manual will void such warranty absolutely;

(b) The warranty will not extend to any liability for injuries incurred and which result from the use of the product contrary to the instructions in the manual;

(c) Save as prescribed by law, ***ESS*** will not be liable for any damage sustained by a purchaser or a third party by way of consequential loss arising out of defects in the product.

You are asked to note that ***ESS*** offers purchasers a service whereby either:

(a) It will install the product and certify the correctness of such installation, or

(b) Certify the correctness or otherwise of the installation of the product by third parties.

This certification service is designed to ensure that you obtain the full benefit of the ***ESS*** warranty hereby provided. If you would like to take advantage of the installation certification service provided, please contact ***ESS*** regarding the service.

Refer to the Final Checklist at the back of this manual.

Visit the ***ESS*** website www.esseng.com.au to register your product warranty.

Information contained herein is for use in the operation of **Guardaseal Belt Support System**, purchased from ***ESS*** and cannot be passed on to any other party without express permission, in writing, from ***ESS***.

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SECTION 1 - SAFETY

The GUARDASEAL is designed to be quickly and easily serviced by appropriate personnel.

Under no circumstances should servicing or installation of the cleaner be carried out whilst the belt is in operation.

The conveyor must be shut down and locked out before any person enters or reaches into the conveyor enclosure.

Ensure that only suitably qualified and trained personel install and service this product. Ensure that all site and statutory safety procedures are followed.

SECTION 2 - INTRODUCTION

The ***ESS*** Guardaseal Belt Support System consists of a telescoping steel frame, fitted with low friction UHMW-Polyethylene bars that are designed to be easily removed without the necessity of pulling out the support frame from the conveyor. The System is fabricated to conform exactly to the troughed belt profile (FIG. 1).

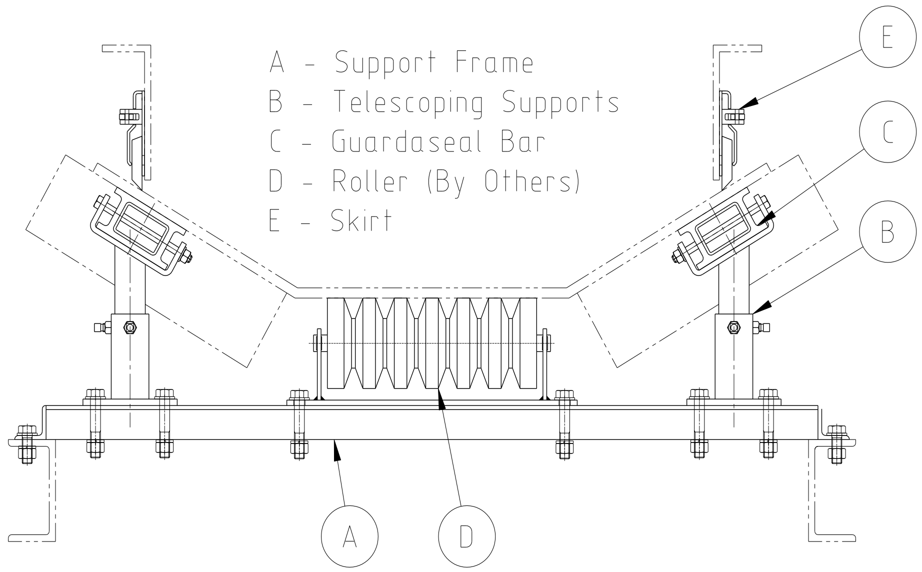


FIG. 1

The ***ESS*** Guardaseal Belt Support System holds conveyor belts in a stable, sag free position to allow effective sealing. By minimising belt vibration and sag the Guardaseal Belt Support System reduces escaping material and risk of damage to the belt and conveyor accessories. Guardaseal bars provide a low friction, self lubricating surface for conveyor belts to skim over without heat builldup or undue wear on the belt surface or bars. The ***ESS*** Guardaseal Belt Support System is not intended to absorb impact.

SECTION 3 - INSTALLATION

Installation Procedure

1. Determine approximate installation position for each Support System on the conveyor and place the appropriate Systems adjacent to the installation area.

2. Before commencing installation or any work around the conveyor belt ensure that the belt is isolated and tagged.

3. The ***ESS*** Guardaseal Belt Support System is intended to be installed between idler troughing assemblies. Multiple Support Systems will have an idler trough assembly between each successive System. Ensure that the idler assemblies are either already installed or available at the installation site. If the idlers are already installed, check that sufficient clearance is available between successive sets of rollers to fit a Support System. Standard Systems are 1200mm long and require 25mm clearance at each end between System bar and roller (FIG. 2). If required, the Guardaseal Bars can be easily cut to suit on site.

4. Assemble the necessary tools and safety equipment required for the job.

NOTE: BEFORE PROCEEDING WITH INSTALLATION, ENSURE THAT THE CONVEYOR BELT DRIVE IS FULLY ISOLATED AND LOCKED OUT.

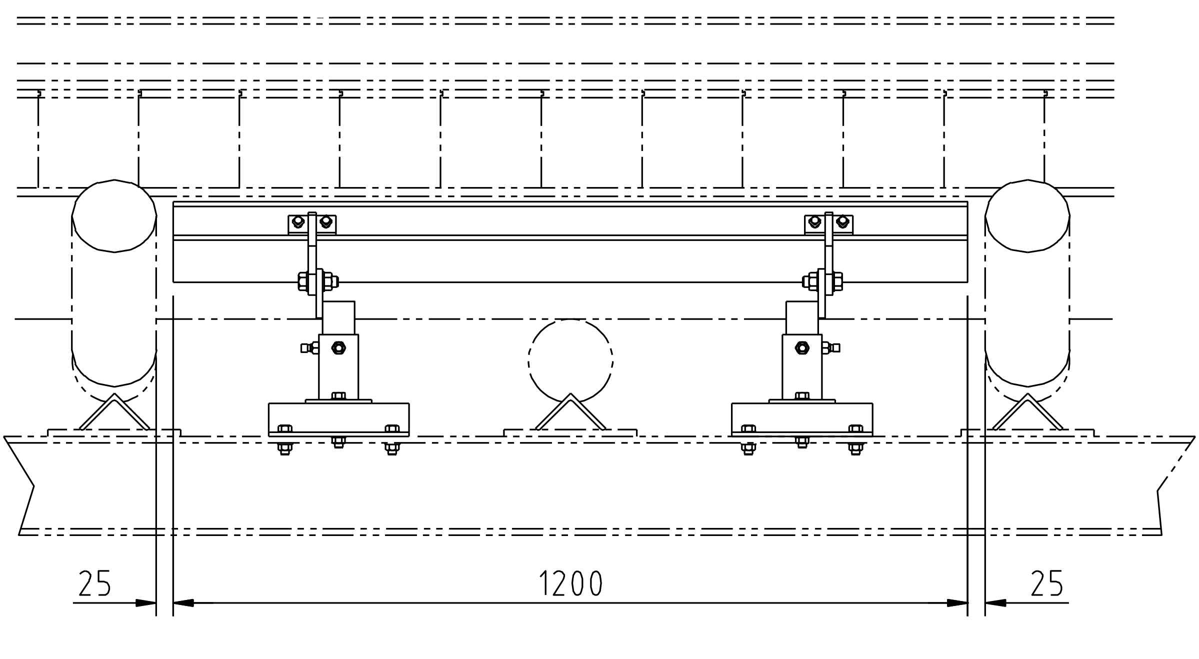


FIG. 2

5. Determine the installation position for the Support System/s The System/s should be installed to cover the entire skirted section of the conveyor belt. Having determined the position of the first Support System, place the first support frame onto the conveyor stringers in the appropriate position and align with stringers. Ensure that the support frame is centred and squared to the stringers and clamp into position. Repeat with other support frame.

6. Slide the telescoping supports onto the Guardaseal Bar at a distance apart the same as the support frames. Slide this assembly onto the support frames until the Guardaseal Bars are under the skirting. Adjust the telescoping frames so that the Guaraseal Bar sandwiches the belt firmly between the skirting and the Bar (FIG. 3).

7. If not already in position, install an idler set either side of the Support System ensuring that 25mm clearance will be available at both ends of the Guardaseal Bars (FIG. 2).

8. Repeat the above procedure for all subsequent Systems.

NOTE: IF YOU HAVE ANY PROBLEMS, OR ARE UNCLEAR ON ANY INSTALLATION STEP, CONTACT *ESS* ON OUR CUSTOMER SERVICE NUMBER 1800 074446.

9. Remove danger tags and return conveyor to service, following plant procedures.

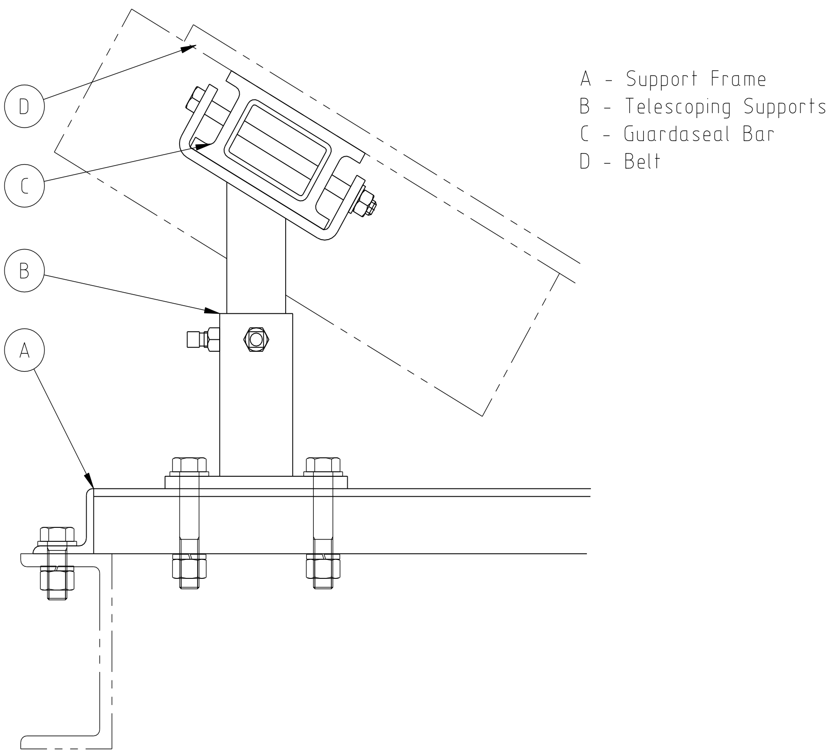


FIG. 3

SECTION 4 - COMMISSIONING

No special commissioning procedures are required for Guardaseal Support Systems. Provided the Systems are installed as per the drawing and instructions, then operational attention should not be required.

A note on safety:

No additional safety hazards are present with Guardaseal Support Systems other than normal conveyor belt dangers.

In particular:

- Beware of moving conveyor belts.
- Beware of pinch points
- Do not attempt to install, maintain or disassemble any part of a conveyor belt without first isolating and tagging the conveyor drive.

SECTION 5 - OPERATOR TRAINING

Servicing

There are no operator serviceable or adjustable functions on an ***ESS*** Guardaseal Support System.

No in-service procedures need to be followed, other than normal conveyor belt operating procedures.

Safety

As mentioned in Section 4, no additional safety hazards exist with an ***ESS*** Guardaseal Support System, other than normal conveyor belt dangers.

- Do not attempt to perform any job on or around a moving conveyor belt - isolate and tag the belt first.

Problems

The operator, during routine conveyor inspections, should be alert to the following problem indicators:

- Smoke or burning rubber smell - the belt should be stopped immediately, and the problem located. It is far more likely to be a seized impact idler or a skirting problem, but could possibly indicate an Support System fault.

- Leakage of material from skirts at load zone - this should be notified to the appropriate maintenance personnel for attention at the earliest plant stoppage. It may mean that skirting requires attention, and/or that the Support System wings require adjustment or are worn.

SECTION 6 - ROUTINE MAINTENANCE AND SERVICE

Safety

Before attempting any maintenance on or around a conveyor belt, ensure that the belt drive is isolated and tagged.

General

The ***ESS*** Guardaseal Support System requires virtually no maintenance to operate under extreme conditions for thousands of hours. However, to achieve the best bar life and avoid the need for unscheduled bar change-outs, the following maintenance practices should be adopted.

Routine Maintenance

The Systems should be inspected for bar wear after one month of operation, and again after three months.

Subsequent inspection frequency can be determined after the wear rate is assessed at these initial inspections.

SECTION 7 – TROUBLE SHOOTING

If the routine maintenance and scheduled bar change-outs are performed as per ***Routine Maintenance***, non routine maintenance should be virtually non existent. However the following situations are possible.

SYMPTOM	POSSIBLE CAUSE	REMEDY
Smoke or burning rubber smell.	1. Seized idler. 2. Over adjusted or damaged skirting.	- Replace idler - Replace or adjust skirting rubber.
Material spillage under skirts.	1. Skirting rubber not adjusted or failed. 2. Guardaseal Bars are worn.	- Adjust or replace skirting. - Adjust or turn Bars over or replace.

System Disassembly Procedure

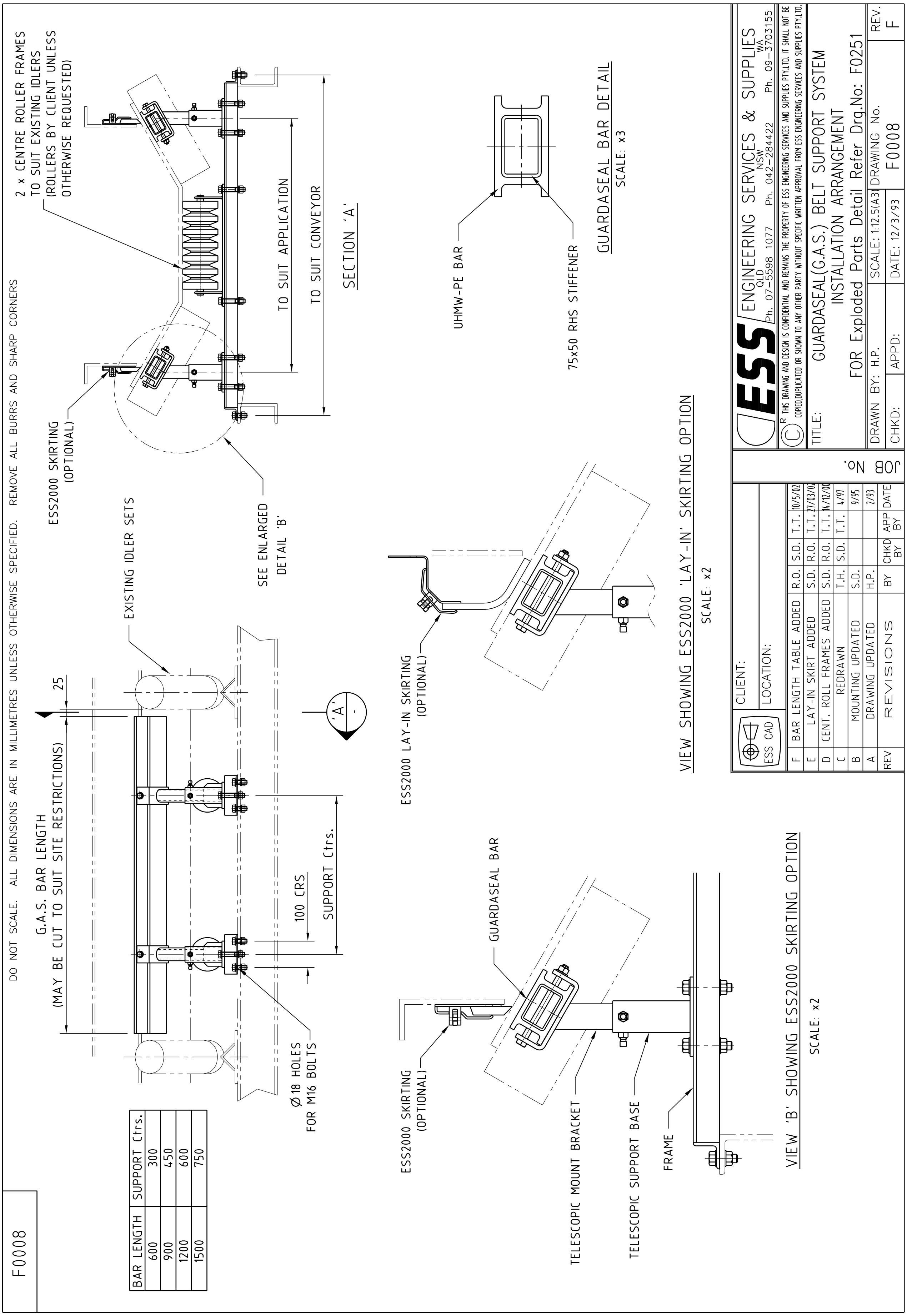
The disassembly of an ***ESS*** Guardaseal Support System is a simple process.

1. Loosen the lock screws on the telescoping supports.
2. Slide the assembly from the support frame.
3. Loosen the lock screws on the bars.
4. Slide the Bars from the supports.
5. Inspect the bars for wear or damage.
6. Rotate the bars if necessary or replace them.
7. Repeat for the other side.

System Re-assembly

Re-assemble the System in reverse order of disassembly,

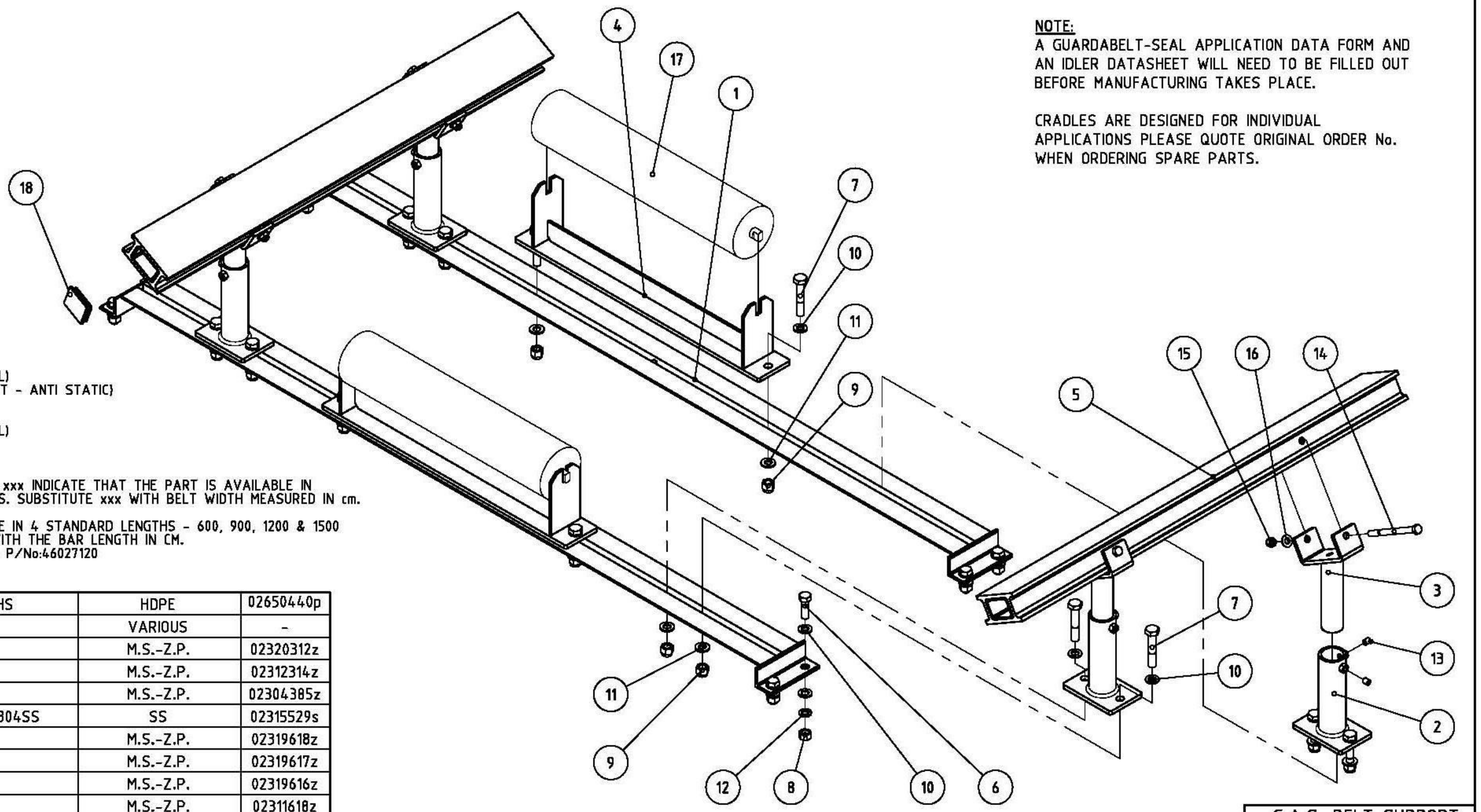
SECTION 8 – INSTALLATION ARRANGEMENT DRAWING



SECTION 9– EXPLODED PARTS LISTS

F0251

DO NOT SCALE. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED. REMOVE ALL BURRS AND SHARP CORNERS



NOTE:
A GUARDABELT-SEAL APPLICATION DATA FORM AND AN IDLER DATASHEET WILL NEED TO BE FILLED OUT BEFORE MANUFACTURING TAKES PLACE.

CRADLES ARE DESIGNED FOR INDIVIDUAL APPLICATIONS PLEASE QUOTE ORIGINAL ORDER No. WHEN ORDERING SPARE PARTS.

BELT WIDTHS AVAILABLE
450
600
750
900
1050
1200
1350
1500
1800
2000
2200
2400

SUFFIX NOTES

GENERAL
s = S.S. (STAINLESS STEEL)
f = FRAS (FIRE RETARDANT - ANTI STATIC)

FASTENERS / FITTINGS
s = S.S. (STAINLESS STEEL)
z = ZINC PLATED

PART NO. NOTES
1. PART No's FOLLOWED BY xxx INDICATE THAT THE PART IS AVAILABLE IN ALL STANDARD BELT WIDTHS. SUBSTITUTE xxx WITH BELT WIDTH MEASURED IN cm.

2. ITEM 5, G.A.S. BARS COME IN 4 STANDARD LENGTHS - 600, 900, 1200 & 1500 SUBSTITUTE yyy IN P/No. WITH THE BAR LENGTH IN CM.
I.E. 1200 LONG G.A.S. BAR = P/No:46027120

ITEM	QTY	DESCRIPTION	MATERIAL	PART No:
18	4	MAINFRAME PLUG TO SUIT 75X50RHS	HDPE	02650440p
17	2	IDLER (BY CLIENT)	VARIOUS	-
16	4	WASHER 1/2" X 1 1/4" DIA HD	M.S.-Z.P.	02320312z
15	4	NUT 1/2"BSW NYLOC	M.S.-Z.P.	02312314z
14	4	BOLT 1/2" BSW X 6 1/2" HEX	M.S.-Z.P.	02304385z
13	8	SCREW M12X28 HEX SET POINTED 304SS	SS	02315529s
12	8	WASHER M16 SPRING	M.S.-Z.P.	02319618z
11	12	WASHER M16 H/D	M.S.-Z.P.	02319617z
10	28	WASHER M16	M.S.-Z.P.	02319616z
9	12	NUT M16 NYLOC	M.S.-Z.P.	02311618z
8	8	NUT M16 HEX	M.S.-Z.P.	02311616z
7	12	BOLT M16X90 HEX	M.S.-Z.P.	02303640z
6	8	SCREW M16X50 HEX	M.S.-Z.P.	02315640z
5	2	GUARDASEAL BAR COMP W/O HOLES	M.S.-Z.P./UHMW-PE	46027yyy
4	2	CENTRE IDLER FRAME - NO IDLER	M.S. GALV	46030005
3	4	TELESCOPIC SUPPORT BAR	M.S.-Z.P.	46010010
2	4	TELESCOPIC SUPPORT BASE	M.S.-Z.P.	46010005
1	2	BASE	M.S. GALV	46040xxx

G.A.S. BELT SUPPORT ASSEMBLIES COMPLETE	
BAR LENGTH	PART No:
600	45081xxx
900	45082xxx
1200	45083xxx
1500	45085xxx

DRAWING No.	REFERENCE DRAWINGS
F0008	GUARDASEAL INSTALLATION ARRANGEMENT

File: C:\Vault Working Folder\DRAWINGS\GENERAL\F_INSTALLATION DRAWINGS\F0200\F0251.dwg, 20/09/2012 1:40:57 PM, sdevis

JOB No.

ESS CAD

CLIENT:

LOCATION:

REV	REVISIONS	REF DOCS	BY	CHKD BY	APP BY	DATE
C	UPDATE AS PER REQUEST	EDCR419	RED	SD	SD	23/8/12
B	REVISED		GC	SD	TT	5/7/03
A	ISSUED FOR INFROMATION		RO	SD	TT	10/5/02

ESS ENGINEERING SERVICES & SUPPLIES
CUSTOMER SERVICE No. 1800 074446

TITLE: GUARDSEAL(G.A.S) BELT SUPPORT CRADLE EXPLODED PARTS DETAIL

DRAWN BY: R OAKLEY	SCALE: NTS	DRAWING No.	REV.
CHKD:SD APPD: TT	DATE: 10/5/02	F0251	C

SECTION 10

FINAL CHECKLIST

Site:____________________ Number: ____________________ Date:____________________

Site Equipment No./Location: ____________________ Site Contact: ____________________

Completed By: ____________________ **(Circle Yes or No Below)**

1. **Was equipment to ESS Specification?** ____________________ **Yes/No**

   Drawing No. Ref:____________________**Attached? Yes/No**

   If No, WHY ____________________

   Will this affect performance? Yes/No

   If Yes, WHY ____________________

2. **Was this a standard ☐ service ☐ inspection ☐ installation? Yes/No**

   If No, WHY ____________________

3. **Was work carried out as per procedure and JSA? Yes/No**

   If No, WHY ____________________

4. **Is equipment fit for commissioning? Yes/No**

   If No, WHY ____________________

5. **Was a final inspection carried out while plant was running? Yes/No**

   If No, WHY ____________________

6. **Has anything changed from previous service / inspection / installation? Yes/No**

   If Yes, WHAT ____________________

7. **Is equipment performance to Client expectations? Yes/No**

   If No, WHY ____________________

ESS Signature: ____________________ **Client Signature:** ____________________